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7-2500-723-2  
E-017/GR-86-380

STATE OF MINNESOTA  
OFFICE OF ADMINISTRATIVE HEARINGS

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION

in the Matter of the Petition  
of Otter Tail Power Company  
FACT,  
for Authority to Change Its  
Schedule of Rates for Electric  
ORDER  
Utility Service in the State  
of Minnesota

FINDINGS OF  
CONCLUSIONS AND  
RECOMMENDED

PART 11

The Findings of Fact, Conclusions and Recommendations of the Administrative Law Judge in this matter are being issued in two parts. Part I issued on March 6, 1987, considered the issues of Jurisdiction, Test Year, Rate Base, Operating Income and Return on Capital. Part 11 will consider Rate Design, 1986 Tax Law Effects, Otter Tail Power's Conservation Program and Miscellaneous matters. Conclusions and Recommendations applying to the entire Report are included.

Data regarding the hearings, the parties and future proceedings before the Commission are detailed at the beginning of Part 1, and will not be repeated.

Corrections to Part 1

129. In Finding of Fact No. 8, at second paragraph, last sentence, change Hoot Lake (North Dakota) to hoot Lake (Minnesota).

130. Under the Recovery of Spiritwood Costs subsection:

(a) Throughout the subsection, change the spelling of the word "Latish" to "Ladish"; and

(b) At Finding of Fact 24, last line, substitute the words "electric-generated kiln heating" for the word "electricity"; and

(c) At Finding 28, insert "for its kiln heating needs" between "energy" and "from"; and

(d) At Finding 30, first line, insert the words "for its kiln heating needs" after the word "gas"; and

(e) At Finding 31, first sentence, delete the words "its" and  
usage"; and

(f) At Finding 31, second line, delete "(through recovery of  
that  
quantity of steam)", and substitute "(through the use of steam  
produced at

Spiritwood, instead of electric heat, to provide the kiln heating needs of Ladish's Malt plant)"; and

(g) At Finding 36, first sentence, insert the word "entire" between "its" and "Spiritwood"; and

(h) In the "DISCUSSION" section following Finding of Fact 37, at the last sentence of the Discussion, substitute the words "to heat the kilns in Ladish Malting's operation" for "to power Ladish Malting's operation; and

(i) In the last line of the "DISCUSSION" section following Finding 37, substitute "steam heat" for "electric power" as the last two words of the Discussion.

131. In the "DISCUSSION" of Big Stone Acquisition and carrying Charges, after Finding of Fact 52, in the second sentence of the last paragraph of the Discussion, change the word "planned" to "plant".

132. In the "DISCUSSION" of Research and Development Expenditures, after Finding of Fact No. 73:

(a) In the first sentence of the Discussion, change the word "substantial" to "specific"; and

(b) Add, as a new sentence between the two existing sentences of the first paragraph of the Discussion, the following: "The Company never established what proportion of the EPRI allocation would go to each of the other Research and Development 'beneficiaries' if no contribution were to be made to EPRI."

133. In the "DISCUSSION" of Marketing and Advertising Expenses, following Finding of Fact No. 84, insert the following, as an additional new paragraph, before the final paragraph of the Discussion:

In connection with the DPS's Motion to Strike (see Finding 72 and related Discussion), the DPS filed a companion Motion to Strike Attachment "C" to Otter Tail's Initial Brief. The Company replied to the Motion on February 12, 1986. The subject matter of Attachment "C" is a DEED report on projected energy sources and the projected prices thereof. The Department's Motion is GRANTED, and Attachment "C" stricken, because the Administrative Law Judge refused, at the hearing, to take notice of its contents when OTP offered to submit it as a late-filed Exhibit. See T., Vol. 11. pp. 35-39. To admit or take notice of the document at this time would be improper and inconsistent with the ruling made at the hearing

Otter Tail's Conservation Program

134. On September 8, 1986, the Commission issued a letter to all gas and electric utilities in Minnesota, including OTP. The Commission reminded the Company that Minn. Stat. 216B.16, subd. 1 requires that a public utility's notice of change in rates include "an energy conservation improvement plan

pursuant to section 216B.41". Although the Commission has not yet established formal guidelines for the submission of an acceptable Conservation Improvement Plan as part of a public utility's notice of change in rates, in intercity Gas Company, Docket No. G-007/GR-83-317, the Commission required that utility to file a new Conservation Improvement Program based on an outline proposed in testimony by the Department of Energy and Economic Development. Along with the letter, a copy of the DEED plan outline was enclosed. The Commission stated that the DEED plan outline was an excellent approach for the content of a Conservation Improvement Plan and commended it to the attention of all Minnesota utilities, urging them to follow the DEED plan as a "minimum guide to what will be required in a plan filed with a rate case".

135. The Conservation Improvement Plan (CIP) submitted by OTP in this case fails to address some of the areas covered by the DEED outline. The Company acknowledges this deficiency and intends to work with the Commission, DEED and DPS in development of a CIP complying with the outline.

136. It is appropriate for the Commission to order OTP to file a new Conservation Improvement Plan based on the DEED outline.

#### DISCUSSION

There is precedent (Docket G-007/GR-83-317) for the Commission to issue a compliance Order requiring a utility to conform its CIP to the outline prepared by DEED. Although the Company pledged to work with appropriate state agencies to prepare a CIP that complies with the outline, it has urged that the Commission not issue an Order for it to do so. However, it is appropriate for the Commission to require, by Order, the Utility to work with DPS and DEED to develop a Conservation Improvement Plan complying with the DEED outline. Such an Order would provide an assurance that the plan will be re-written in compliance with the Commission's directive. There is no sufficiently compelling reason for the Commission to depart from the procedure used in Inter-City.

#### Rate Design

##### Principles of Rate Design

137. The Company bears the burden of proof that the proposed rate design is just, reasonable and not unreasonable, preferential or discriminatory. Minn. Stat. 216.03 and 216B.16 (1986).

138. When the Commission allocates the revenue deficiency among classes of customers to provide for the recovery of a revenue requirement, it acts in a

quasi-legislative capacity. *Hibbing Taconite Co. v. Minnesota Public Service Commission*, 302 N.W.2d 5, 9 (Minn. 1980); *St. Paul Area Chamber of Commerce v. Minnesota Public Service Commission*, 312 Minn. 250, 262, 251 N. W.2d 350, 358 (1977).

139. Having established a revenue deficiency, if Otter Tail does not establish the reasonableness of its proposed rate design, then the Commission must determine just and reasonable rates to allow for the recovery of the revenue deficiency. Minn. Stat. 216B.16, subd. 5 (1986).

140. The principles of rate design governing the exercise by the Commission of its quasi-legislative authority may be summarized as follows:

(a) Rates should be designed to provide the Company with a reasonable opportunity to earn its revenue requirement as determined in the proceedings;

(b) While cost of services is an important factor to be considered by the Commission in determining the allocation of rates among customers, the Commission must also consider non-cost factors inherent in a proper balancing of public policy and private need. Reserve Mining Co. v. Public Utilities Commission, 334 N.W.2d 389, 393 (Minn. 1983); St. Paul Area Chamber of Commerce v. Minnesota Public Service Commission, supra, at 216 and 358 (1977);

(c) Rates should provide a reasonable continuity with past and future rates to prevent inordinate and immediate impact on existing and future customers;

(d) Rates should be as simple, understandable and easy to administer as is practical; and

(e) In Reserve Mining Co. v. Public Utilities Commission, supra, 334 N.W.2d at 393, the Court listed the following relevant noncost factors: whether the rates would be disruptive; revenue stability; affordability; the ability to pass costs onto others; and the ability to decrease the impact of a rate increase through tax deductions.

#### Class Cost of Service-Study (CCOSS)

141. Once the Company's revenue requirement has been determined, it is necessary to allocate this total requirement among the various classes and rate groups based on their responsibility for the costs from which the revenue requirement was derived. The purpose of a CCOSS is to identify as accurately as possible which customer class is responsible for each cost incurred by the utility in rendering service.

142. The DPS proposes two modifications to the Company's embedded CCOSS: allocation of the energy-related portion of baseload plant using the E2 allocator and allocation of conservation costs half to capacity and half to energy. OTP opposes the allocation of energy-related portion of baseload plant using the E2 allocator.

143. The Company does not oppose the DPS recommendation to split conservation costs into two equal parts, allocating those costs as capacity and energy related. Since OTP has not performed an analysis of the exact capacity and energy benefits of its conservation programs, the joint recommendation to split conservation costs equally between capacity and energy is reasonable and should be adopted by the Commission.

144. Regarding application of the E2 allocator to the energy portion of baseload plant, OTP advocates use of the allocator only for energy-related costs to off-peak control loads. It would not assign a portion of the higher capital costs of building baseload plants to the off-peak, interruptible classes of ratepayers.

145. Baseload plants are built to serve the dual purposes of meeting capacity requirements and providing inexpensive energy. These plants have a



higher capital cost than peaking plants, but have lower operating costs. When a baseload plant is built, the higher capital cost is incurred in order to obtain the plant's lower cost energy. The difference in capital costs should be allocated as an energy-related cost rather than a capacity-related cost.

146. Use of the E2 allocator to assign responsibility for the higher capacity cost of a baseload plant to the interruptible, irrigation, controlled water heating and deferred classes (those not under the E2 allocator in OTP's proposal) results in a better allocation of energy-related costs to the customer classes that caused those costs to be incurred.

147. The decision whether to purchase baseload plant rather than peaking plant is based on a utility's aggregate load pattern. A flat load pattern, caused in great part by off-peak usage, influences a utility to purchase baseload capacity. Usage of off-peak energy tends to level off the Company's load curve, a factor which influences the Company to purchase baseload plant. Therefore, sales to the interruptible, irrigation, controlled water heating and deferred classes (all off-peak customer classes), which tend to flatten the Company's load, have influenced the Company to purchase baseload plant.

148. The higher capacity cost of baseload plant, considered an energy-related cost under the above reasoning, is properly allocated to the classes who caused the addition of that plant through use of the E2 allocation factor.

149. The Commission should adopt the Company's embedded CCOSS, as modified by the Department's embedded class cost of service study recommendations regarding the E2 allocator and the splitting of conservation costs.

#### DISCUSSION

As OTP frames the issue, the determination to be made regarding differences between its embedded CCOSS and that of the DPS is whether to use cost-responsibility principles to allocate the energy-related capacity costs among classes or not. The Company perceives the DPS recommendation for use of the E2 allocator (also endorsed by the OAG and Superwood, et al.) as an alternative method based on the benefits or value of using the service. As such, it constitutes "value of service" pricing, a method that has been rejected by the Commission since the mid-1970s.

OTP advocates assignment of costs to the "cost-causer" insofar as possible, as the Commission has sought to do in similar situations, with occasional modification for the purpose of achieving greater equity for residential ratepayers. What OTP's position ignores is that application of the E2 allocator to the classes the Company wants exempted accomplishes the very purpose of assigning costs to the classes who cause those costs. The

Company's argument that off-peak load does not influence the decision to build baseload plant, instead of peaking plant, is misplaced. It is inaccurate to say that classes whose use is controllable or off-peak cause neither the use of existing energy capacity nor a need for additional baseload energy capacity.

The Company has constructed high cost baseload plant to produce low cost energy to serve its off-peak customers. But for the interruptible and off-peak classes, OTP would likely increase generation capacity by adding less expensive peaking plants, which have higher energy costs. Sales to off-peak

and interruptible classes influence OTP's decisions as to what type of plant to purchase. These classes influence OTP to buy baseload capacity. Accordingly, it is appropriate to allocate the higher capacity cost of a baseload plant as an energy-related cost to the customer classes that caused that extra cost to be incurred, including off-peak and interruptible classes. Using the E2 factor (which is based simply on kwh sales) properly accomplishes this.

In opposition, the Company points out that application of the E2 allocator to such classes will drive up the rates of those classes to the point where the Company's product (electricity) will not be able to compete with the alternative fuels available to such customers. This is a very real consideration, but the argument improperly confuses the assignment of cost responsibility with actual rate setting or pricing. The Company's concern that cost allocation applying the E2 allocator to the interruptible, off-peak classes will automatically drive customers in those classes away from electrical usage should be taken into consideration in actual price determination.

#### Marginal Class Cost--The DPS Study

150. Marginal cost is the cost of producing one additional unit of a good or service. The marginal cost to an electric utility consists of three items: the cost of providing an additional kwh of energy; the cost of providing an additional KW of capacity; and the cost of adding an additional customer to the system,

151. The DPS conducted a marginal cost study for OTP, based on data supplied by the Company, and recommended a set of marginal cost-based rates.

152. Marginal cost is the cost of providing an increment of service in current dollars. A marginal cost study estimates the costs the system will incur when the next unit of production is added. The length of time studied should be as long as the planning horizon for the element of the electric system with the longest lead time.

153. A marginal cost study should be performed over a time period where fixed costs are variable, a period which includes the next planned generation addition.

154. The marginal cost study performed by the DPS considered OTP's capacity costs over a five-year time period and energy costs were studied for

a one-year time period. The one-year energy cost study assumed that the cost of energy would not change over the five-year period.

155. While Otter Tail plans no plant additions for the five-year period under study, its cost of energy will change over the five years because the mix of generation sources will change and energy sales in the off-peak period will increase, while total demand does not increase.

156. The marginal costs estimated by the DPS study are only about two-thirds of the average embedded costs.

157. The DPS study does not accurately reflect the true marginal costs for Otter Tail Power Company.

158. There is no reason, other than coincidence, for the revenues resulting from utility rates set at marginal cost to match the Utility's embedded revenue requirement. Consequently, in order implement marginal cost-based rates, it is necessary to adjust the Utility's rates to reconcile the difference between the revenues generated by rates set at marginal cost and the embedded revenue requirement.

159. While marginal cost studies should reflect the "true economic cost" of providing a unit of service, it was necessary in this case for the DPS to reconcile estimated marginal costs to embedded costs. To accomplish this, DPS's estimate of total marginal energy and demand costs was adjusted upward by over \$27 million. See DPS Exhibit 100 (Table SBB-1).

160. DPS employed different time frames of reference throughout its marginal cost study. For calculating marginal capacity costs, the DPS used the "Peaker" method. The Peaker method is based on the long run. On the other hand, for marginal energy costs, the DPS used system lambdas, which reflect the actual running cost of the last unit dispatched. System lambdas are based on the short run. For marginal customer costs, the DPS used the embedded customer costs from its embedded class cost of service study.

161. Not all rate design goals are accomplished by marginal cost analysis. Marginal cost pricing's primary emphasis is on allocating economic efficiency. The goals of allocative efficiency and the ability to collect the revenue requirement are results of an accurate marginal cost study-analysis. In this case, however, the estimates had to be adjusted upward significantly in order to match embedded costs. Therefore, the goal of providing OTP with a reasonable opportunity to earn its revenue requirement has not been met.

162. The rate-design goals of considering non-cost factors inherent in a proper balancing of public policy and private need and provision of a reasonable continuity with past and future rates to prevent inordinate and immediate impact on existing and future customers are not taken into consideration by the DPS's marginal cost study.

163. OTP, the OAG and Superwood, et al. suggest that the Commission should adopt OTP's recommendation to consider marginal cost pricing in a separate docket proceeding. The purpose of such a proceeding would be to attempt to reach some consensus regarding marginal cost methodologies and the application of marginal costs to rates. It is found that the recommendation for further study, in the context of a study group with representatives of the parties to this case, with the goal of reaching a consensus on the parameters of a marginal cost study and its application to rate-setting, is reasonable, and the Commission should adopt it.

#### DISCUSSION

Acceptance of the marginal cost study performed by the DPS would be a departure from the Commission's traditional approach to rate design. Although

the Commission has used marginal cost theory in setting certain intra-class rates, it has relied primarily on embedded costs for establishing class revenue requirements. The Commission has reviewed marginal cost proposals by a number of parties in previous cases, and has conducted one entire proceeding on the subject of marginal time of day costs for NSP. That proceeding, Docket

No. E-002/M-78-753, lasted several years from its filing date to the Commission's final order. In its order, the Commission articulated its concerns with marginal cost pricing. In general, the Commission indicated concern about the theoretical appropriateness of basing utility rates on marginal costs in a less than perfectly competitive economy, the reliability of marginal cost methodologies, and the ability to transform estimated marginal costs into meaningful rates,

OTP has advocated that the principles for conducting a marginal cost study should be agreed upon in advance, and has volunteered to participate with interested parties in an effort to do so. A separate proceeding is urged to re-design rates after completion of such a study, if practicable. The OAG endorses this approach.

Measuring marginal costs requires subjective decisions regarding the method by which to measure marginal capacity costs, the identification of a specific set of kilowatt hour categories for which marginal costs are to be calculated, the allocation of annualized marginal capacity costs to particular costing categories, the definition of marginal customer costs and the method of reconciling costs to revenues. The number of "judgment calls" needed in preparing such a study creates problems with the reliability of the methods used to measure marginal costs. Marginal cost pricing focuses primarily on economic efficiency, but the Commission's rate design objectives are not limited to economic efficiency alone.

A further problem with the DPS study is that it did not incorporate the actual plans of Otter Tail for ensuring that its system will be able to handle additional (marginal) load. The Department's approach cannot result in a true marginal cost measurement for OTP when it ignores, for example, the Company's actual plans for adding capacity during the time frame studied. The Company plans to meet peak needs through diversity exchanges, load management and the extension of power purchase contracts, and none of these were factored into the DPS's marginal cost study.

The DPS did make a substantial effort to conduct a marginal cost study, based on load studies supplied by Otter Tail. On some issues, the Department failed to consult the Company. The study's recommendations represent OTP's long-run marginal costs as being lower than its embedded average costs. This suggests that the cost of adding new units will be less than average costs and, therefore, that OTP should encourage maximum consumption of electricity in order to reduce those average costs. That result illustrates that the basis of the marginal cost study is flawed. In today's regulatory environment, it would not be in accordance with public policy for electric utilities to encourage consumption.

#### Class Revenue Responsibility Allocation

164. Otter Tail Power Company filed a rate design based on the rate design approved by the Commission in Otter Tail's last case, with across-the-board increases for all classes. OTP proposes to apply the across-the-board increase at the overall rate approved by the Commission for its increase in revenue requirement. This plan is endorsed by the Office of Attorney General.

165, The DPS rate design proposals were based on its marginal cost study.



166. Superwood, et al., endorses the present OTP rate structure this is supported by the OAG in this proceeding, with across-the-board increases in each rate class by the amount of increase granted in the Commission's final decision for overall general rates. With respect to the Large General Service (LGS) customers, however, SUP makes three additional recommendations. it supports the introduction of optional time of day rates, a 12-month program of "dual billing" of customers as a useful tool to illustrate the benefits of optional time of day rates and an extension of present voltage discounts for OTP's Large General Service Off-Peak Rider.

167. The DPS rate design changes are based entirely on its marginal cost study. The Commission has never adopted a proposal that rate design be based primarily on the results of a marginal cost study. it has consistently adhered to a fundamentally embedded cost approach. For the reasons described herein and in the following Discussion, the rate design of the DPS based on its marginal cost study is inappropriate.

168. The rate design proposal of Otter Tail Power Company should be adopted by the Commission in this proceeding because it is reasonable and consistent with rate design principles adhered to by the Commission.

169. The recommendation by Superwood, et al. for the retention of demand voltage discounts and expansion of those discounts to energy rates is reasonable and should be adopted.

#### DISCUSSION

The imposition of a rate structure based on marginal cost pricing, as derived from the DPS marginal cost study, would cause some dramatic changes in class revenue responsibility and rates. The 23 percent overall rate increase recommended by the DPS for the residential class is a higher increase for that class than even Otter Tail said was proper for its customers (18 percent). For some customers within the residential class, the effect of the DPS recommendations would be in excess of a 50 percent increase in rates. Others would suffer a 39 percent increase. Farm customers, whose basic economic problems in the Company's service area are associated with a bad agricultural economy, would face a 26.7 percent increase under the DPS rate design proposal. Such results are inconsistent with the rate design goal of maintaining a reasonable continuity with past rates to prevent inordinate and immediate impact on the Utility's customers.

In the event that the Commission determines a revenue requirement lower than that requested by the Company, Otter Tail will submit a compliance filing which spreads the lower revenues over the rate schedules on a proportionate

basis. The rate design proposed by OTP will not cause rate-shock differentials from class to class, or customer to customer when the interim rates are adjusted for final rates.

The DPS maintains that its final recommendation is not so harsh. For instance, it proposes to depart from the class cost responsibilities indicated in its marginal cost study when necessary to avoid an overall increase to any one customer class of over 25 percent. However, such an increase is still a large shock, going beyond the increase requested by the Company and violates the rate design goal calling for moderate one-time increases.

The implementation of optional time of use rates recommended by SUP for LGS customers, and also for optional time of day rates, is not recommended because the billing impacts on some customers could be severe. Such a result would violate the rate design goal of providing continuity with past rates. SUP's suggestion that a 12-month "dual billing" of customers could be useful to illustrate the benefits of optional time of day rates is not recommended for adoption because the record does not reflect an estimate of the cost of such a program or a cost/benefit analysis.

The suggestion by Superwood, et al. to extend to energy, rates the voltage discounts on demand rates should be adopted because such discounts are reflective of the lower losses experienced by OTP on higher voltage sales (both on energy and demand).

A review of the specific recommendations made by the DPS for rate design changes within the various classes of OTP ratepayers illustrates the effect of implementing the DPS's marginal cost study:

(a) With respect to the Residential Rate, the DPS recommends a departure from the declining block rate structure. While this general goal has been an objective of the Commission's in recent years, the recommended rate changes are still severe. The Department recommends eliminating the third block and reducing the price differential between the first two blocks by one-third. The Department also recommends the institution of seasonal rates, citing the fact that their study shows that marginal costs in the winter are 1.24 times greater for this class than in the summer. As a result, it proposes that the energy rate for the initial price block be set at a level 1.1 times greater than the summer rate. Adoption of such a differential, the DPS argues, moves toward the appropriate seasonal cost while moderating the severity of the rate increase for customers with high winter season consumption.

(b) The Department proposes to raise the customer charge for Residential ratepayers from \$5.95 to \$7.45 in Zone I and from \$6.75 to \$8.45 for customers in Zone 9, citing the fact that these changes provide movement toward the actual customer cost of \$16.33 without constituting an immoderate increase. However, as the OAG points out, the overall effect of imposing the DPS marginal-cost study-derived rates on the residential class is a 23 percent increase.

(c) For Farm Rates, the Department proposes to reduce the differential between the current declining blocks by one-half and to institute seasonal rates (again setting an energy rate for the initial block in winter at 1.1 times the summer rate for that block). The DPS would also raise the customer charge from \$8.50 to \$10.50, an increase \$.40 greater than that proposed by OTP. As pointed out by the OAG, however, the overall increase for farm customers of 26.7 percent is immoderate. In addition, increasing the

customer charge too greatly further violates the rate design goal of keeping rate adjustments moderate.

(d) For the General Service Rate, the DPS's recommended design involves a one-half reduction in the differential between the two energy blocks, the institution of seasonal rates but no change in the customer charge proposed by OTP. The DPS also proposes that the stretcher block component of the general service rate be retained, with the addition of a 50 percent ratchet.

(e) For the Large General Service Rate, the DPS recommends elimination of the declining-block rate structure, and the implementation of a seasonal rate which sets the winter charge at 1.1 times the summer charge.

(f) As to the Municipal Rate, the DPS recommends modification of the declining-block rate structure by reducing the differential between the first and second, and the second and third blocks by one-half each. A winter rate of 1.1 times the rate in summer is also recommended, and a recommendation is made to institute a \$10 customer charge.

(g) For the Residential-Controlled Demand Rate, the DPS recommends institution of a winter energy charge set at 1.1 times the summer energy charge. A customer charge of \$14 is recommended, whereas CTP recommends an \$11.90 customer charge. The Department also proposes a 75 percent ratchet for this class, so that the customer is billed at the greater of either his maximum one-hour demand for the month, or 75 percent of his maximum seasonal demand.

(h) With regard to Commercial Time of Use Rates, the Department recommends the institution of seasonal energy rates. It is so recommended because, while this class is currently assessed the same peak, intermediate and off-peak energy charges for each season, the marginal cost study shows that the capacity and energy cost per kwh during winter peak is nearly three times the cost during summer peak. The recommended adjustment is to set the winter peak rate at twice the summer rate, with the current off-peak rate retained for both seasons.

(i) As to customers using the Large General Service Off-Peak Rider, the Department recommends that the stretched block and declining-block rate structures within that class be eliminated. In addition, the voltage discount recommended for the Large General Service rates would be applied under the DPS recommendation, and a winter peak charge set at 1.8 times the summer charge would be implemented. The winter off-peak charge would be set equal to the summer charge.

(j) Implementation of a winter energy charge set at 1.1 times the summer energy charge and an increase in the customer charge to \$3.00 in order to move toward the actual customer cost of \$5.33 is recommended for customers on the Water Heating Controlled Service Rate and Controlled Service-Deferred Load Rate.

(k) For Controlled Service-Interruptible (less than 100 kilowatt) ratepayers, the Department recommends institution of seasonal rates, with the winter energy rate set at 1.1 times the summer energy rate. An increase of

the facility's charge to \$5 per month, \$1 greater than OTP's proposal, is also recommended.

(1) The Department recommends imposition of a winter energy charge at 1.1 times the summer energy charge for members of the Controlled Service-Interruptible (greater than 100 kilowatt) rate class. In addition, the DPS recommends that the facilities charge be increased from \$5 per month to \$6, and that the demand charge be raised from \$.50 per kilowatt per month for the first 300 kilowatts to \$.70 and from \$.30 per kilowatt after 300 kilowatts to \$.50. No increase is recommended in the revenue responsibility of this class.

The above-detailed specific recommendations on a class-by-class basis advocated by DPS are enumerated here for the Commission's consideration. Many of the concepts advocated, such as moving away from declining block rates, merit review. However, the Administrative Law Judge recommends, as does the OAG, that the above rate changes, based on the DPS's marginal cost study, not be implemented due to the problems associated with that study as previously detailed herein.

#### Bulk Interruptible Rates

170. The DPS argues that the Company's Bulk Interruptible tariff violates State law because it permits the Company to vary energy rates between customers in the same customer class. It is reasoned that the current tariff permits variance of energy rates based upon the cost an individual customer must incur to switch to fuel oil. To cure this perceived discriminatory rate, the Department recommends that the Company's Bulk Interruptible rate include the option to reduce rates for all its customers. Such downward class-wide flexibility would, the DPS argues, permit discountable rates that would not unreasonably discriminate among Bulk Interruptible customers.

171. The DPS proposes an initial energy rate of 1.9 cents per kwh to be applied to all customers, with downward flexibility on a class-wide basis to a floor for the energy rate of .2 cents per kwh above the cost of energy.

172. The Bulk Interruptible rate is available to large customers with demand in excess of 1,000 kilowatts, who have an alternative fuel supply (generally oil) available to use when their electrical service is interrupted,

173. OTP's Bulk Interruptible rate has been approved by the Commission. Bulk Interruptible customers can switch to an alternative fuel, so they are able to protect themselves against unreasonable price discrimination, should the Company make such an attempt.

174. It is reasonable to retain OTP's Bulk Interruptible rate classification as proposed by the Company. The DPS proposal for re-structuring this rate classification should be rejected.

#### DISCUSSION

DPS argues that a situation where different customers in the same rate class pay different rates based upon the price of the competitive fuel available to them constitutes an unreasonable discrimination. Minn. Stat.

216B.03 (1986) requires rates to be just and reasonable, not unreasonably preferential and not unreasonably prejudicial or discriminatory. Under Minn.

Stat. 216.07 (1986), utilities are not to grant any unreasonable preference

or advantage to any customer nor to subject any customer to an unreasonable prejudice or disadvantage. Minn. Stat. 216B.22 (1986) gives the Commission

authority to replace unreasonable, unjustly discriminatory or preferential rates with reasonable rates. The Administrative Law Judge is unable to agree with the DPS position that the Bulk Interruptible rate imposed by OTP violates the statutes.

it is not necessary for the Commission to "protect" customers by requiring that all Bulk interruptible customers pay the same rate. The Bulk



Interruptible rate is a contract rate and the few customer on that rate in Minnesota have contracts on file with the Commission.

Bulk Interruptible customers are large users who do not have competitors receiving lower electrical rates from Otter Tail. In earlier approving OTP's

Bulk Interruptible tariff, the Commission recognized that the law does not prevent discrimination between customers. Rather, it prohibits unreasonably preferential, prejudicial or discriminatory rates. "Discrimination" between or among customers is permitted if it is not unreasonable.

The rationale behind the pricing mechanism in the Bulk Interruptible tariff is competition. It is not unreasonable to set prices for a competitive

service at a level dictated by competition. The Bulk Interruptible tariff establishes different prices for individual customers based on competition with alternative fuels and their availability to the particular customer. It

does not violate statutes developed to protect customers in a monopoly market. The different prices available to individual Bulk Interruptible rate

customers vary according to each customer's ability to obtain various prices for oil, the alternative fuel competing with the Company's product. A tariff

allowing the Company to negotiate a bulk rate with such customers, which rates

may vary depending upon the price and availability of alternative energy sources on a case-by-case basis, is not unreasonably preferential, unreasonably prejudicial or discriminatory.

#### Connection Charge

175. OTP has recommended an increase in the connection charge from \$9 to \$15. This recommendation is not challenged by any party

176. An increase in the connection charge from \$9 to \$15 is reasonable, and should be adopted by the Commission.

#### Conservation Rate Break

177. The conservation rate break is a categorization adopted by the Commission for the purpose of rewarding customers who keep their electrical usage below the 300-400 kwh level each month. The reward takes the form of a

credit of \$3 for usage less than 300 kwh per month and \$1.50 for usage between 301 and 400 kwh per month.

178. OTP recommends that the conservation rate break be eliminated and be replaced by more cost-effective programs if the money is going to be spent.

179. The program costs ratepayers over \$530,000 per year. It is not effective in reducing electrical usage nor in assisting low-income households

(the secondary purpose of the program). The program requires a subsidy of approximately 1.645 mills per kwh and 47 percent of low-income Customers are paying for this program rather than benefiting from it. See OTP Exhibit 59, p. 16.

180. None of the Intervenors opposes elimination of the conservation rate break for OTP in this rate case. The Company's recommendation to eliminate the conservation rate break should be adopted.

## DISCUSSION

The record shows that most of OTP's customers do not live in large communities with natural gas availability. Therefore, most of the Company's customers use electricity for cooking, clothes drying, and water heating, as well as for refrigeration, lighting and other basic household necessities. Neither a low-income household nor a small one could realistically keep essential electrical usage below 300 kwh per month in normal household operation. See OTP Exhibit 50. The average household using electricity for no other purposes than a refrigerator-freezer, six 100-watt lightbulbs, a two-burner stove and oven, one color television, a water heater, an electric washer and a dryer would be expected to consume 1125 kwh per month. Even if such a household was motivated by the existence of the conservation rate break to conserve so as to reduce consumption to half the "typical" household use, they would still consume over 500 kwh hours per month and would not qualify for the conservation rate break.

In metropolitan areas, natural gas is typically used for space heating, water heating, clothes drying and cooking so electrical use can be kept at low levels. In OTP's service area, however, gas is available only in the larger towns. Therefore, electricity is widely used for these purposes.

OTP argues that persons who now receive the conservation rate break are (due to the general unavailability of natural gas) those who live in larger towns or are seasonal users--"snowbirds" who go to Florida and Arizona for the winter. Other qualifiers are people who eat all their meals out, use very little hot water at home, or who rely on laundromats and dry cleaners. The Company contends that persons in those categories are not necessarily making any effort to conserve energy, and are not necessarily poor.

Since the record shows that the program is not effective in reducing electrical usage nor in assisting low-income households, the requirement for OTP ratepayers to be on the conservation rate break program should be eliminated.

### Effects of 1986 Tax Law Revision

181. The 1986 Tax Reform Act became effective January 1, 1987. On July 1, 1987, the new corporate tax rate of 34 percent (instead of 46 percent) becomes effective. For the 1987 calendar year, corporations will pay a "blended" rate of 40 percent, rather than the 46 percent used by the Company in calculating

its rates.

182. OAG witness Nelson and Superwood, et al. witness Dahlen propose that the 34 percent rate be applied to rates on and after July 1, 1987. This would allow OTP to use the 46 percent rate for calculation of rates for the interim period and 34 percent for rates after the interim period, which ends June 30, 1987.

183. Upon the filing of its Initial Brief, OTP submitted a method to calculate the effect of the new tax law. OTP's method is a fully developed study, taking into account all of the known additions and deductions in arriving at the tax figures. The study details each component of the tax calculation affected by the new tax law. Work papers supporting this study have been made available to all parties.

184. The Company proposes to make a compliance filing incorporating the Commission's Order in this docket and the corporate utility tax changes in the 1986 Tax Reform Act. It recommends that the Commission's order setting rates in this case make no adjustment for the effect of the new tax law since the old tax law will be in effect during the test year. The Company recommends issuance of a second order, which will set rates effective July 1, 1987, reflecting the impact of the new tax law as calculated using the proposal developed by Otter Tail.

185. The method of taking account of the effects of the 1986 Tax Reform Act suggested by OTP is reasonable, so long as the Intervenorers are allowed an opportunity to review and comment on the Company's compliance filing. The Utility's proposal to file updated rate base summary, operating statement and overall financial summary incorporating the new tax law, after the Commission issues its order in this case setting rate base, income statement and overall financial summary should be adopted, along with SUP's recommendation that all parties be allowed the opportunity to review and comment on the re-computed tables.

#### DISCUSSION

The tables submitted with OTP's Initial Brief reflect adjustments for the major provisions of the new tax law. As pointed out by Company witness Hernan Gonzalez, however, Congress has yet to act on all of the "corrections bills" which make the final adjustments for corporate income tax items such as depreciation, and items particularly affecting utilities. The schedules submitted by OTP show the effect of the new tax law as though the law had been in effect for the full test year as filed. However, to actually determine the impacts and the rates giving effect to the new tax law after July 1, 1987, those schedules must be adjusted for the Commission's decision in this case. In its order, OTP suggests that the Commission request the Company to adjust these schedules to show the impact of the Commission's Order on the issues in the case. These schedules and calculations could be filed within the time required for a compliance filing on the initial decision.

All parties to this case agree that the effects of the new tax rate change for rates after July 1, 1987 should be properly reflected during the time period that rates will be in effect. After receipt of the suggested compliance filing, the Commission may make a second Order setting rates from July 1, 1987, based on the new tax law as applied to the rate base, operating statement and rate of return found appropriate in the Commission's initial order. Superwood, et al.'s suggestion that all parties be allowed an opportunity to review and comment on OTP's proposed filing in compliance with the Commission's Order is sound and should be incorporated into the initial Order.

Based upon the foregoing Findings, the Administrative law Judge makes the following:

#### CONCLUSIONS

1. The Minnesota Public Utilities Commission and the Administrative Law Judge have jurisdiction over the subject matter of the hearing pursuant to Minn. Stat. Ch. 216B and 14.57 - 14.62, and Minn. Rules 1400.5100 - .8300.

2. The Commission gave proper notice of the hearing in this matter, has fulfilled all relevant substantive and procedural requirements of law or rule and has the authority to take the action proposed.

3. Any of the foregoing Findings more appropriately considered Conclusions of Law are hereby adopted as such.

4. The proper test year for determining Otter Tail Power Company's revenue deficiency is the 12-month period between July 1, 1986 and June 30, 1987.

5. The Company's originally-proposed Minnesota rate base should be decreased by \$7,994,740, with an accompanying increase in the total available for return on the operating statement of \$271,702, due to adjustments in allocation of the Company's property between Minnesota and other jurisdictions.

6. OTP's purchase of land for the Spiritwood project was not prudent; land acquisition costs in connection with Spiritwood should not be included in the test year rate base.

7. Money spent on planning and engineering prior to abandonment of the Spiritwood project were prudently spent. Engineering and planning costs for the Spiritwood project should be included in the test year rate base.

8. Acquisition and carrying charges for the purchase of an incremental 28 MW in the Big Stone generating station should be included in the test year rate base, except for carrying charges for the Allowance for Funds Used During Construction (AFDC).

9. Customer deposits in the amount of \$366,728 should be deducted from the test year rate base, with an accompanying increase in cost of service for interest expense of \$22,004.

10. It is appropriate to determine cash working capital by use of the lead-lag method.

11. Accumulated Deferred Income Tax reserve associated with the 1979 decrease in corporate tax rate from 48 percent to 46 percent should be adjusted to return the excess Accumulated Deferred Income Tax over a two-year period.

12. OTP's appropriate test year rate base is \$176,172,171.

13, Research and development expenditures originally allocated for the Electric Power Research Institute should not be allowed as expenses on the test year operating income statement.

14. The Company's proposed test year expense for pension funding is appropriate.

15. OTP's proposed expenses for advertising and marketing for the test year should be reduced by \$95,861.



16. No adjustment to test year revenues or deferred taxes is appropriate to recognize the effect of unbilled revenues in prior years or to recognize the difference between unbilled revenues at the beginning and end of the test year .

17. To equalize the benefits of the Accumulated the Deferred Income Tax Credit (ADITC), OTP's test year operating income should be increased by \$ 3 1 6 , 3 6 8 .

18. The correct Minnesota jurisdictional retail sales forecast to be used for the test year is \$78,627,000.

19. OTP's appropriate test year net operating income is \$14,181,753.

20. The appropriate capital structure for Otter Tail Power Company is 44.04 percent for long term debt, 10.17 percent for preferred stock and 45.79 percent for common equity.

21. The appropriate cost of long term debt for Otter Tail Power is 8.7 percent.

22. The appropriate cost of preferred stock for Otter Tail Power is 7 16 percent.

23. The appropriate cost of common equity for Otter Tail Power is 12.41 percent.

24. OTP's appropriate test year overall rate of return is 10.24 percent

25. OTP's test year revenue deficiency is \$8,119,269. That revenue deficiency would grant the Company a 10.3 percent overall increase in rates.

26. It is appropriate for the Commission to order OTP to file a new Conservation improvement Plan based on the outline issued by the Department of Energy and Economic Development.

27. The Company's embedded Class Cost of Service Study should be adopted, with the recommendations regarding the E2 allocator and splitting of conservation costs proposed by the Department of Public Service.

28. The marginal cost study submitted in this case by the DPS should not be adopted.

29. The application of marginal cost methodologies and marginal costs to the Utility's rates should be studied further in a study group with representatives of the parties to this case in an attempt to reach a consensus on the parameters of a marginal cost study and its application to rate-setting.

30. The overall rate increase approved by the Commission in this case should be applied to all classes of OTP ratepayers.

31. The rate design proposals based on the DPS's marginal cost study are inappropriate.

32. The rate design proposed by Otter Tail Power Company, including its adjustments to customer charges, should be adopted.

33. The recommendation by Superwood, et al. for retention of demand voltage discounts and expansion of those discounts to energy rates is reasonable and should be adopted.

34. OTP's Bulk Interruptible rate classification should be retained.

35. The customer connection charge should be increased from \$9 to \$15.

36. The conservation rate break program for Otter Tail Power Company should be eliminated.

37. After issuance of the Commission's order, OTP should be required to file an updated rate base summary, operating statement and overall financial summary incorporating the effects of the 1986 Tax Reform Act. That updated filing should be used as a basis for rate adjustments after July 1, 1987. Intervors in this case should be allowed to review and comment on OTP's updated filing for 1986 Tax Reform Act effects.

THIS REPORT IS NOT AN ORDER AND NO AUTHORITY IS GRANTED HEREIN. THE PUBLIC UTILITIES COMMISSION WILL ISSUE THE ORDER OF AUTHORITY WHICH MAY ADOPT OR DIFFER FROM THE FOLLOWING RECOMMENDATIONS.

It is the recommendation of the Administrative Law Judge to the Public Utilities Commission that it issue the following:

#### ORDER

1. Within thirty (30) days of the date of this Order, Otter Tail Power Company shall file with the Commission for its approval, and provide to all parties to this proceeding, a revised schedule of rates and charges, incorporating the decisions made herein, so as to allow the production of increased annual revenues for the test year equal to the revenue deficiency herein, in accordance with the rate design provided for herein.

2. Within thirty (30) days of the date of this Order, the Company shall file with the Commission for its review and approval, and serve upon all parties to this proceeding, a proposal to refund to its customers any monies collected in excess of the increase authorized herein.

3. Within ninety (90) days of the date of this Order, the Company shall file with the Commission a revised conservation plan that meets the requirements of the Minnesota Department of Energy and Economic Development outline approved by the Commission in Inter-City Gas Company, Docket No. G-007/GR-83-317.

4. The parties to this case shall form a study group to determine the parameters of a marginal cost study and the application of such a study to rate-setting for Otter Tail Power Company. The study group shall file a progress report with the Commission within one hundred eighty (180) days of the date of this Order,

5. By June 20, 1987, the Company shall file with the Comission for its review and approval adjusted calculations for rate base, operating statement and rate of return, such figures adjusted for the effects of the 1986 United

States Tax Reform Act. All Intervenors must be given an opportunity by the Company to review and comment on the proposed filing.

6. This Order shall become effective immediately.

Dated this 13th day of March, 1987.

RICHARD C. LUIS  
Administrative Law Judge

Reported: Harold M. Reiner, Alan J. Thiry, Lynn M. Peters,  
and Barbara J. Nelson, Court Reporters.  
Transcripts Prepared.

#### NOTICE

Pursuant to Minn. Stat. 14.62, subd. 1, the agency is required to serve its final decision upon each party and the Administrative Law Judge by first class mail.